

d.) Remarks

In the present amendment the Specification has been amended to correct the error pointed out in the instant Action, and to supply missing data for a companion case.

A primary reference in the rejection of claims is the Fukuzaki patent, which describes a position sensing arrangement for multiple cordless position indicators. It employs two sets of antennas, each set comprising a plurality of parallel linear conductors arrayed in a plane, each set of antennas extending orthogonally to the other. The antennas sets are provided to transmit power to the cordless position indicators, and in that aspect the reference bears a similarity to the present invention.

However, as noted in the instant Action, Fukuzaki “does not specifically teach the first antenna extending about the perimeter of said touch sensing area.” Fukuzaki instead relies on a much different method for transmitting power to the cordless position indicators. Each of the antenna is separately addressable by the power generating circuit, and device position data are used to select the antenna(s) that represent the Cartesian coordinates of each device. The power signal is directed to the selected antennas so that the power is “focused” on the position of the cordless position indicator. Thus, in effect, the power signal is arranged NOT to be broadcast across the sensing surface, but rather to be narrowcast to the locations of the cordless position indicators.

A secondary reference in the rejection of claims is the Van Ruymbeke patent, which describes a laptop touchpad with an integrated antenna. In this

arrangement, the opening in the shielded computer housing that is used to support a touchpad module is used to support an antenna for wireless communications. The positioning of the antenna is chosen because of the opening in the shielding, so that a signal may be radiated outwardly from the computer without attenuation or blocking by the housing. The antenna is employed in various ways, such as to communicate either with a wireless network (Bluetooth or the like), or with one or more cordless computer input devices (mouse, joystick, etc.).

It must be noted that Van Ruymbeke never suggests that the antenna radiates a power signal to any device on the touchpad, nor to the cordless computer input devices receive any power from the antenna. Rather, the antenna is used solely for communications purposes. This is an important distinction with respect to the present invention.

In the rejection of claims 1-6 and 18 over a combination of Fukuzaki and Van Ruymbeke, it is stated that it would have been obvious to incorporate the antenna of Van Ruymbeke in the system of Fukuzaki to provide maximum power from the loop antenna, so that the resulting EM field distributes maximum energy to the touch input device. Applicant respectfully disagrees with this combination for the following reasons. First, the antenna of Van Ruymbeke is not designed nor intended to radiate a power signal. Indeed, the stated uses (local wireless network, cordless input communications) are limited in power by FCC regulations, and maximizing radiated energy is neither lawful nor desired. Second, Fukuzaki does not seek to maximize radiated power; rather, it delivers sufficient power to the touch input devices by targeting the power signal to the locations of the touch

input devices through a narrowcasting technique. Thus there would be no incentive for the individual having ordinary skill in the art to combine the two references, given the fact that neither reference seeks to maximize the radiated signal across the touch sensing surface. Therefore it is asserted that this combination rejection is not justified by the literal disclosures of the references, and should be withdrawn.

Another secondary reference, Stevenson, is cited for a showing of a conductive layer in a touch sensing area, with a power signal applied to the conductive layer. This view of the reference is not supported by the literal disclosure of the reference. Stevenson describes an electromagnetic transducer that includes a diaphragm having conductive traces formed thereon, and a magnetic field in which the diaphragm operates. Like most transducers, the diaphragm operates reversibly: a current passed through the conductive traces generates an EMF that interacts with the magnetic field to generate motion and acoustic energy; or, acoustic energy causes the diaphragm and its conductors to move in the magnetic field, generating a voltage that represents the diaphragm motion. In the former case, a speaker, and in the latter, a microphone, for example.

It is readily apparent that the Stevenson device bears no relationship in function or structure to a touch sensing device: it has no touch sensing capability, no touch sensing area, and no touch output. The transducer operates as a moving mass to be an acoustic transducer, not a touch sensor. There is no suggestion to use the acoustic transducer to power any device, nor to power a touch input

device, nor to pick up acoustic signals from a touch input device. The Stevenson transducer is capable of broadcasting an acoustic field throughout a touch screen area; however, as noted above, Fukuzaki does not rely on a broadcasted field, but rather on a matched coordinate, narrowcast field. Thus a fundamental premise of the use of this reference in the rejection is completely lacking, and there is no impetus for combining the references.

The rejection appears to be based on dissecting the structure of the reference, isolating the moving diaphragm of the reference, and asserting that it is the same in form and function as the immobile conductive layer of the present invention. How would an individual having ordinary skill in the art interpret the reference in this way, without first studying the disclosure of the present invention? Why would this individual attempt to combine a dynamic diaphragm transducer with a static touch sensing surface? Applicant asserts that this combination is too far-fetched and illogical to constitute a legitimate §103 reference, and cannot be maintained.

To further point out the distinctions of the present invention over the prior art, as noted above, the claims have been significantly amended. Independent claim 1 now recites means for connecting the power signal to the first antenna to generate an EM power field across the touch sensing area. As noted above, the perimeter antenna of Van Ruymbeke does not emit a power signal, merely a communications signal that is by regulation a low power signal. Claim 1 should now be allowable. Similarly claim 2 is now amended to state that the second antenna receives power from the EM power field, in contradistinction to the

references. Claims 3-6 depend from these allowable claims, and are therefore allowable as well.

Claim 13 has been amended to include the substance of old claim 14; to wit, that the transducer includes a power signal transmitter coupled to peripheral portions of the conductive layer to create a voltage gradient across the conductive layer. As described above, diaphragm of the Stevenson reference, even if it were significantly altered to be combined with a touch screen, does not provide an AC voltage gradient across the conductive layer. Thus claim 13 should be allowed.

Claim 15 depends from claim 13, and recites that the pair of contact points are movable on the conductive layer and spaced apart to acquire a voltage differential. This teaching is completely lacking in the cited art, and claim 15 is clearly allowable. Claims 16 and 17 depend from claim 15, and are therefore also allowable. Claim 18 is amended to state that the perimeter antenna is driven with a power signal to generate an EM power field, unlike the Van Ruymbeke reference.

Claim 19, unamended, recites generating an EM field across the conductive layer to create a voltage gradient, unlike the Van Ruymbeke reference. Claim 20 is amended to recite that the pair of contacts are adapted to translate on the conductive layer, whereas the Van Ruymbeke contacts are fixed.

All claims now presented are submitted in the belief that they are allowable over the art, and that this application in condition for issuance. Action toward that end is earnestly solicited.

No new fee is required by this amendment.

Respectfully Submitted,



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